

# Henri-Claude Nataf

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/831311/publications.pdf>

Version: 2024-02-01

50  
papers

3,143  
citations

186265

28  
h-index

197818

49  
g-index

52  
all docs

52  
docs citations

52  
times ranked

1336  
citing authors

#	ARTICLE	IF	CITATIONS
1	3SMAC: an a priori tomographic model of the upper mantle based on geophysical modeling. <i>Physics of the Earth and Planetary Interiors</i> , 1996, 95, 101-122.	1.9	318
2	A simple method for inverting the azimuthal anisotropy of surface waves. <i>Journal of Geophysical Research</i> , 1986, 91, 511-520.	3.3	311
3	Measurements of mantle wave velocities and inversion for lateral heterogeneities and anisotropy: 3. Inversion. <i>Journal of Geophysical Research</i> , 1986, 91, 7261-7307.	3.3	213
4	Anisotropy and shear-wave velocity heterogeneities in the upper mantle. <i>Geophysical Research Letters</i> , 1984, 11, 109-112.	4.0	195
5	Turbulent geodynamo simulations: a leap towards Earth's core. <i>Geophysical Journal International</i> , 2017, 211, 1-29.	2.4	171
6	Heat transfer and horizontally averaged temperature of convection with large viscosity variations. <i>Journal of Fluid Mechanics</i> , 1983, 129, 173.	3.4	145
7	Ultrasonic Doppler velocimetry in liquid gallium. <i>Experiments in Fluids</i> , 2001, 31, 653-663.	2.4	128
8	A systematic experimental study of rapidly rotating spherical convection in water and liquid gallium. <i>Physics of the Earth and Planetary Interiors</i> , 2001, 128, 51-74.	1.9	124
9	Seismological detection of a mantle plume?. <i>Nature</i> , 1993, 364, 115-120.	27.8	108
10	Seismic Imaging of Mantle Plumes. <i>Annual Review of Earth and Planetary Sciences</i> , 2000, 28, 391-417.	11.0	102
11	3D convection at infinite Prandtl number in Cartesian geometry – a benchmark comparison. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1994, 75, 39-59.	1.2	99
12	Convection experiments in fluids with highly temperature-dependent viscosity and the thermal evolution of the planets. <i>Physics of the Earth and Planetary Interiors</i> , 1982, 29, 320-329.	1.9	97
13	The three-dimensional seismological model a priori constrained: Confrontation with seismic data. <i>Journal of Geophysical Research</i> , 1996, 101, 8457-8472.	3.3	81
14	Rotating spherical Couette flow in a dipolar magnetic field: experimental study of magneto-inertial waves. <i>Journal of Fluid Mechanics</i> , 2008, 604, 175-197.	3.4	64
15	Vectorial tomography-I. Theory. <i>Geophysical Journal International</i> , 1988, 94, 295-307.	2.4	61
16	A parameterized model for the evolution of isotopic heterogeneities in a convecting system. <i>Earth and Planetary Science Letters</i> , 1982, 60, 178-194.	4.4	57
17	Seismic discontinuity at the top of D <sub>410</sub> : A world-wide feature?. <i>Geophysical Research Letters</i> , 1993, 20, 2371-2374.	4.0	56
18	Detection of mantle plumes in the lower mantle by diffraction tomography: Hawaii. <i>Earth and Planetary Science Letters</i> , 1998, 159, 99-115.	4.4	55

#	ARTICLE	IF	CITATIONS
19	Experimental study of super-rotation in a magnetostrophic spherical Couette flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2006, 100, 281-298.	1.2	54
20	Experimental and numerical studies of convection in a rapidly rotating spherical shell. <i>Journal of Fluid Mechanics</i> , 2007, 580, 83-121.	3.4	52
21	Anisotropy beneath 9 stations of the GEOSCOPE Broadband Network as deduced from shear-wave splitting. <i>Geophysical Research Letters</i> , 1989, 16, 409-412.	4.0	49
22	Mantle convection, plates, and hotspots. <i>Tectonophysics</i> , 1991, 187, 361-371.	2.2	46
23	Laboratory convection experiments: Effect of lateral cooling and generation of instabilities in the horizontal boundary layers. <i>Journal of Geophysical Research</i> , 1981, 86, 6143-6154.	3.3	45
24	Further evidence for the $\sigma$ -Lay discontinuity beneath northern Siberia and the North Atlantic from short-period P-waves recorded in France. <i>Physics of the Earth and Planetary Interiors</i> , 1992, 72, 264-275.	1.9	41
25	Rapidly rotating spherical Couette flow in a dipolar magnetic field: An experimental study of the mean axisymmetric flow. <i>Physics of the Earth and Planetary Interiors</i> , 2008, 170, 60-72.	1.9	40
26	Laterally varying reflector at the top of $D_3$ beneath northern Siberia. <i>Geophysical Journal International</i> , 1993, 115, 168-182.	2.4	39
27	A turbulent, high magnetic Reynolds number experimental model of Earth's core. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 4538-4557.	3.4	37
28	What is responsible for thermal coupling in layered convection ?. <i>Journal De Physique</i> , 1988, 49, 1707-1714.	1.8	34
29	Zonal shear and super-rotation in a magnetized spherical Couette-flow experiment. <i>Physical Review E</i> , 2011, 83, 066310.	2.1	29
30	Modes and instabilities in magnetized spherical Couette flow. <i>Journal of Fluid Mechanics</i> , 2013, 716, 445-469.	3.4	29
31	Experimental study of a geostrophic vortex of gallium in a transverse magnetic field. <i>Physics of the Earth and Planetary Interiors</i> , 1995, 91, 77-98.	1.9	25
32	Experimental and numerical studies of magnetoconvection in a rapidly rotating spherical shell. <i>Journal of Fluid Mechanics</i> , 2007, 580, 123-143.	3.4	24
33	Nonlinear Dynamical Coupling Observed near the Threshold of Convection in a Two-Layer System. <i>Europhysics Letters</i> , 1991, 14, 655-660.	2.0	23
34	Turbulence in the Core. , 2015, , 161-181.		22
35	Detection of mantle plumes in the lower mantle by diffraction tomography: theory. <i>Earth and Planetary Science Letters</i> , 1998, 159, 87-98.	4.4	21
36	Sustaining Earth's magnetic dynamo. <i>Nature Reviews Earth &amp; Environment</i> , 2022, 3, 255-269.	29.7	21

#	ARTICLE	IF	CITATIONS
37	Magneto-“Coriolis waves in a spherical Couette flow experiment. <i>European Journal of Mechanics, B/Fluids</i> , 2013, 37, 10-22.	2.5	18
38	Turbulence Reduces Magnetic Diffusivity in a Liquid Sodium Experiment. <i>Physical Review Letters</i> , 2014, 113, 184501.	7.8	17
39	On the peculiar nature of turbulence in planetary dynamos. <i>Comptes Rendus Physique</i> , 2008, 9, 702-710.	0.9	14
40	Dynamic domains of the Derviche Tourneur sodium experiment: Simulations of a spherical magnetized Couette flow. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	12
41	Magnetic induction maps in a magnetized spherical Couette flow experiment. <i>Comptes Rendus Physique</i> , 2013, 14, 248-267.	0.9	11
42	Experiments on Joule heating and the dissipation of energy in the Earth's core. <i>Geophysical Journal International</i> , 1996, 127, 339-347.	2.4	10
43	Scattering of S waves diffracted at the core–mantle boundary: forward modelling. <i>Geophysical Journal International</i> , 1999, 139, 325-344.	2.4	10
44	Acoustic spectra of a gas-filled rotating spheroid. <i>European Journal of Mechanics, B/Fluids</i> , 2020, 84, 302-310.	2.5	8
45	Magnetic induction and diffusion mechanisms in a liquid sodium spherical Couette experiment. <i>Physical Review E</i> , 2014, 90, 043018.	2.1	7
46	Torsional Alfvén waves in a dipolar magnetic field: experiments and simulations. <i>Geophysical Journal International</i> , 2019, 219, S83-S100.	2.4	7
47	Helioseismology in a bottle: modal acoustic velocimetry. <i>New Journal of Physics</i> , 2014, 16, 113005.	2.9	6
48	Reassessment of a reported Sâ€œdelay under Trindade. <i>Geophysical Research Letters</i> , 1981, 8, 1027-1030.	4.0	3
49	One-and-a-Half Layer Convection?... , 1989, , 197-200.		2
50	Inner core takes another turn. <i>Nature</i> , 2000, 405, 411-412.	27.8	0